PCI Precast/Prestressed Concrete Institute

Subject: Responses to Public Comments on Proposed updates for PCI 135, *Specification for Tolerances of Precast Concrete.*

Date: May 31, 2025

Oversight Committee: PCI Tolerances Committee	**Document name:** PCI-135_Response_to_Public_Comments_20250531	**PCI Contact:** Edith Gallandorm	**Finalized:** May 15, 2025 *These responses have been approved by PCI TAC and QAC

Item #	Initials	Section Number	Public Comment	Committee Response
1	MW		Add in Solid Slab Tolerances that were in previous MNL135 Documents.	Agree. Will add. Include in the second public comment period.
2	EK	Cover	Add “Products” after Precast Concrete	The standard covers more than products. It also includes steel embed and loose assemblies and erection tolerances. No change.
3	JC	Entire document	Manual to PCI Standard	MNL-135 is currently being updated

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				Add to foreword: <u>The tolerances and associated information in this standard were adapted from MNL 135. For additional information and examples, please reference MNL 135.</u>
4	JC	Forward, page 2 of PDF List previous editions, 2000, 2002,	Forward, page 2 of PDF List previous editions, 2000, 2002,	Editorial, typically we do not list years in the body of the document.
5	EK		Add definition for Production drawings and use definition from ACI 319	The term production drawings is not used in the standard. No change.
6	JC	1.1	Consider dropping second two sentences. This is Section 1.1 Scope let it just be about scope.	Agree. Embed is clearly defined in definitions and not needed in Section 1.1 Scope.
7	JC	1.1	refrain from using 'the' 'a' 'an'. Standard needs to be direct and to the point. There are exceptions to using 'the' just use it sparingly. 'the precast concrete component,' reads better than no 'the'. Judgement	Editorial,
8	JC	1.1	are there any exclusions to the scope? RCP reinforced concrete pipe for example, job built precast maybe?	Agree. This does not cover all precast as defined by ACI. Site-cast precast should be excluded. See item 9
9	JC	1.1	1. Items/language for PCI to consider, note the following language is from a proposed ACI specification under development, the final language is yet to be confirmed, the language is a spec so it is written to give Contractor direction. PCI is developing a standard that is directed to LDP, specialty engineers, manufactures and erectors=a very different audience. Incorporation of the	Add the following sections: 1.1 Scope. 1.1.1 This standard specifies tolerances for ~~the~~ design, manufacture, and installation of precast concrete components and fabricated embeds. 1.1.2 Precast concrete products excluded from this standard include:

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			following will require wordsmithing to meet target audience. 2. XX - This Specification governs for construction within its scope. If there are differences between requirements of this specification and project-specific Contract Documents, project-specific Contract Documents govern. 3. XX - *Work not specified*—Unless otherwise specified, the following Work is not in the scope of this Specification: (a) Manufactured concrete products specified by ASTM standards (b) Slip-formed paving concrete (c) Shotcrete (d) Nuclear and nuclear containment structures (e) Bins and silos (f) Canal lining (g) Monolithic water-conveying tunnels, siphons conduits and spillways (h) Bridges (i) Chimneys and cooling towers (j) Secant or tangent piles (k) Reinforced Masonry (l) Prestressed circular structures (m~~) Specialized structures~~ (n) Single-family residential (o) Thin-shell structures XX - Unless otherwise specified, the indicated tolerances govern. This Specification governs if there is a conflict with referenced materials and testing standards.	a. Site-cast precast concrete b. concrete products regulated by ASTM, 1.1.3 Unless otherwise specified, the following is not in the scope of this standard: a) cast-in-place concrete b) manufactured steel sections in accordance with American Institute of Steel Construction (AISC) c) Nuclear and nuclear containment structures d) Bins and silos e) Canal lining f) Chimneys and cooling towers Section 2.1.1 addresses the conflict item in paragraph 2. Paragraphs 6 through 11 will be addressed by staff and PCI Standards committee as new business.

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			4. XX - Ignore provisions of this Specification that are not applicable to the Work 5. XX - *Units*—Values in this Specification are stated in inch-pound units. Unless otherwise stated, the inch-pound system of units shall be applicable in ASTM combined standards referenced in this Specification 6. XX - Interpret this Specification consistent with the plain meaning of the words and terms used. 7. XX - Definitions provided in this Specification govern over the definitions of the same or similar words or terms found elsewhere. 8. XX - Headings are part of this Specification and are intended to identify the scope of the provisions or sections that follow. If there is a difference in meaning or implication between the text of a provision and a heading, the meaning of the text governs. 9. XX - Notes to a table are part of this Specification. The meaning of the provision text governs in the event of a difference in meaning or implication between the provision text and a note to a table. 10. XX - If a provision of this Specification involves two or more items, conditions, requirements, or events connected by the conjunctions “and” or “or,” interpret the conjunction as follows:	

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			(a) “And” indicates that all of the connected items, conditions, requirements, or events apply. (b) “Or” indicates that the connected items, conditions, requirements, or events apply singularly. 11. XX - The use of the verbs “may” or “will” indicates that the specification provision is for information to Contractor.	
10	HW	1.2	At definition of camber add “upward” ahead of out-of-plane	Revise definition: Camber—(1) Vertical ~~O~~out-of-plane translation of a point within the span of a prestressed component that occurs due to the net bending resulting from an eccentric prestressing force, ~~(~~not including dimensional inaccuracies~~)~~; (2) a built-in curvature.
11	JC	1.2	Don’t need to lead off a definition with caps ie. bowing or embed but some are formal and need caps such as Architect, Contract Documents, Erector, Manufacturer, Owner, SSE and SSR.	This follows PCI style. No change.
12	JC	1.2	Yes, one recognizes that this is PCI standard, but ACI publishes definitions in CT-24 (Concrete Terminology), PCI may review ACI definitions to either accept ACI version or respond to ACI Staff to consider PCI version. ACI 117 currently has definitions completed as balloted. Definitions in Current 117 (meaning the current as balloted and accepted by 117) have been imported below for PCI to consider. Next version of 117 will contain	PCI staff to review with ACI CT-24 and established PCI definitions used in standards – new business

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			precast tolerances so as to void out ACI ITG-07.	
13	JC	1.2	Architect—Person, firm or organization professionally qualified and duly licensed to issue Contract Documents or administering the Work under Contract Documents	Agree to avoid using term to define term. Suggest change to: Architect—Person, <u>firm</u> or organization professionally qualified and duly licensed to <u>issue contract documents</u> <u>or identify construction to be furnished under contract documents</u>.
14	JC	1.2	Architectural precast concrete component—A component characterized by a higher standard of appearance uniformity with respect to surface details, color, and texture than structural precast Change to: product, nonstructural architectural—precast concrete member that is visually exposed in the finished Work; does not support any horizontal structural members; and is not part of the lateral force-resisting system	Definition is suitable to provide clarification between architectural as it may also be load-bearing and part of the lateral system. No change.
15	JC	1.2	Current 117 language: deviation—distance from an established reference point, line, or surface measured perpendicular to the line or surface of the member.	Agree. Change to:" deviation—distance from an established reference point, line, or surface measured perpendicular to the line or surface of the member." Changed to "component" following PCI terminology.
16	JC	1.2	Current 117 language: deviation from plane—distance between a point on a reference plane and the corresponding point on the actual surface of the member.	Not used in text. Deviation terminology is sufficiently clear. No change.

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17	JC	1.2	Current 117 language: deviation, horizontal—distance from an established point, line, or surface measured perpendicular to a vertical line through the point of interest.	Not used in text. Deviation terminology is sufficiently clear. No change.
18	JC	1.2	Current 117 language: deviation, vertical—distance from an established point, line, or surface measured perpendicular to a horizontal line through the point of interest.	Appears in list of tolerances. Not used in text. Deviation terminology is sufficiently clear. No change.
19	JC	1.2	embed—Any element cast within the precast concrete component, such as a fabricated assembly or proprietary connector. Current 117 language: embedment—item embedded in the concrete to transmit applied loads to the structure	Definition is sufficient as it encompasses items that may include lifters, arch. Features, and items that do not transfer loads. No change.
		6/24/24	Motion to accept proposed responses to public comment on items 1 through 19, with the exclusion of items 8 &9. Motion by – Jim Miller 2nd Brandon Farley Passed unanimously, see attendance (have quorum)	
20	EK	1.2	Erection drawings – Use definition from ACI 319	Agree. Change to: erection drawings.—field-installation or component placement drawings that show the location, orientation, and

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				attachment of the individual precast concrete components.
21	JC	1.2	glass-fiber-reinforced concrete (GFRC) panels— define structural and architectural precast but not GFRC? Should you?	Agree, we should have definition. GFRC - Glass Fiber Reinforced Concrete. a composite of alkali resistant glass fibers mixed with a sand- cement slurry that has a minimum design thickness of 1/2 inch. Add commentary: Glass-fiber-reinforced concrete (GFRC). PCI MNL 130 Manual for Quality Control for Plants and Production of Glass Fiber Reinforced Concrete Products provides additional information regarding the production of glass-fiber-reinforced panels and frame components which may assist in maintaining tolerances.
22	JC	1.2	Current 117 language: length over support—length of precast member over the support measured in the direction of the span.	Not used in text. No change.
23	JC	1.2	Add licensed design professional definition	Agree. Add to match ACI-PCI 319: licensed design professional—an individual who is licensed to practice structural design as defined by the statutory requirements of the professional licensing laws of the state or jurisdiction in which the project is to be constructed, and who is in responsible charge for all or part of the structural design.

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24	JC	1.2	Current 117 language: pretopped—a manufactured precast concrete member that does not require a field-placed concrete topping	Agree. We don't use "system". Revise to: Pretopped - a manufactured precast concrete component that creates the final wearing surface.
25	JC	1.2	Chapter 1, Page 2 as printed,	Pretopped is only shown in section 4.3.4 and 4.3.5 for double and single tees. This is not promoting a specific system but clarifies what "pretopped" means. Similar to existing content in PCI Design Handbook 8th Edition. This standard addresses tolerances, not which systems are to be used or maintenance items. Add commentary to Pretopped ~~system~~ definition similar to: **Pretopped.** Increased flange thickness to reduce or eliminate the need for cast-in-place concrete topping as the final wearing surface. This is typically used as the floor system in parking structures. Some pretopped systems use cast-in-place concrete pour strips along perimeter or interior walls and over interior beams. systems use cast-in-place concrete pour strips along perimeter or interior walls and over interior beams.
26	EK	1.2	Add definition for Production drawings and use definition from ACI 319	Not used in document. No change

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27	JC	1.2	Current 117 language: roughness—the variation in the deviation of an exposed precast surface from a local reference plane	Only used in definition, smoothness is typically used. No change.
28	JC	1.2	Current 117 language: setback—distance from edge of support to the bearing, pad or shim	Not used in document. No change.
29	JC	1.2	Current 117 language: spandrel—precast concrete members that are less than a story in height, have a height to web thickness ratio of 3 or greater, and span horizontally between supports	Not necessary for clarity. No change.
30	JC	1.2	Current 117 language: spanning member—a horizontal precast member supported at or near the ends	Not used in document. No change.
31	JC	1.2	structural precast concrete component—Precast concrete component not defined as being an architectural precast concrete component. Current 117 language: product, structural—precast concrete member that is part of the structural framing system and is designed to resist imposed loads in addition to self-weight.	Agree. Change to: Structural component - precast concrete component that is part of the structural framing system.
			Motion to accept proposed responses to public comment on items 20 through 31 1st Gary ; 2nd Michael Paris	

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32	JC	1.2	sweep—Deviation of a longitudinal edge of a horizontal or vertical component from a straight line through the ends of that edge. Current 117 language: sweep—deviation of a longitudinal edge, of a horizontal or vertical member, from a line through the ends of that edge.	Agree. sweep—deviation of a longitudinal edge, of a horizontal or vertical component, from a line through the ends of that edge.
33	JC	1.2	tipping—Offset relationship of one edge of an embedded plate to the planned surface, or the offset between two edges of the same embed. Current 117 language: tipping—the deviation from plane of one or both edges of an embedment	–Agree, revise to match. tipping—the deviation from plane of one or both edges of an embedment
34	JC	1.2	tolerance— Allowable deviation from specified requirements such as dimensions, location, and alignment. Current 117 language: tolerance—the permitted deviation from a specified dimension, location, line, plane, or quantity	Partially agree. tolerance—the permitted deviation from a specified dimension, location, line, or plane
35	JC	1.2	Current 117 language: Work—the entire construction or separately identifiable parts required to be furnished under Contract Documents	Will be considered as new business. Definition not added.

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36	JC	Chapter 1, Page 2 as printed,	Add “Structural Precast Concrete Component with an Architectural Finish”	Clarity is provided in the commentary. There is commentary in the definition addressing “architectural” structural precast concrete.
37	JC	1.3	consider the following wording for + and -: 1.5.1 *Sign convention*—The sign convention for a tolerance shall be interpreted as specified in 1.5.1(a) through 1.5.1(b): 1.5.1(a) Plus (+) tolerance increases the dimension or elevation to which it applies, or raises a deviation from level. Minus (–) tolerance decreases the dimension or elevation to which it applies. 1.5.1(b) Unless otherwise specified, where only one signed tolerance is specified (+ or –), there is no specified tolerance in the opposing direction	No change.
38	JC	1.3	consider adding: defining significant digits,	Not deemed necessary. No change
39	JC	1.3	consider adding: converting from fractions to decimals,	Not deemed necessary. No change.
40	JC	1.3	consider the issue of firms and individuals assuming that if a tolerance is not defined or specified then the tolerance is zero. The	Agree. Suggest adding new section 2.1.2

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			following language is being considered by 117 and come from AISC 1.11 'Tolerances for materials, fabrication, and erection shall be as stipulated in Sections XX, YY, and ZZ. Tolerances absent from this ~~Code~~ Standard or the Contract Documents shall not be considered zero by default.' [note: Cornell inserted Standard and deleted Code.]	2.1.2 Tolerances for fabrication, and erection shall be as stipulated in Chapters 3, 4 and 5. Tolerances absent from this standard or the contract documents shall not be considered zero by default.'
41	JC	1.4	Referenced documents identified by an asterisk (*) are not consensus standards; rather, they are docu- ments developed within the ~~precast~~ concrete industry that represent acceptable procedures for design , manufacture, and	Agree. Leave precast, and add manufacture after design.
42	JC	1.4	consider delete reference to ACI 117.	–Maintain reference as some definitions have been updated to match ACI 117
43	JC	1.4	consider deleting reference ANSI/AISC	Agree. Strike AISC 360
44	JC	1.4	AWS D1.3 consider deleting reference	Agree. Strike AWS D1.3
45	JC	1.4	IBC 2021 and ICC 500, consider deleting reference	In commentary – retain reference
46	JC	1.4	MNL 120 consider deleting reference	In commentary. Retain reference.
47	HW	1.4	Should we add MNL 135-00 to the list?	This document is not mentioned in the commentary side of the standard. No change.
48	JC	2.1.1	**2.1.1** Tolerances in this standard shall govern except where ~~the~~ requirements of	Partially agree, remove "the". No change to capitalization. Editorial

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			~~the~~ Contract Documents are more stringent.	
49	JC	2.1	**2.1** Responsibilities. This section defines ~~who is responsible for~~ compliance responsibility ~~with this standard~~.	Agree. Cleaner language. Change to " <u>This section defines compliance responsibility.</u>" Section 2.2 not 2.1
50	JC	2.2.1	~~The~~ Architect or Structural Engineer of Record (SER), or the Licensed Design Professional in responsible charge, shall ~~clearly~~ specify ~~the~~ tolerance requirements for precast concrete components as either architectural or structural in ~~the~~ Contract Documents. Contract Documents shall include exceptions to this standard and additional tolerances not included in this standard.	Agree. Strike "clearly", it is not measurable.
51	JC	2.2.2	The SER shall specify ~~and clearly communicate~~ required tolerances for precast concrete components, joints, or connections that require additional tolerances to prevent load transfer.	Agree. "clearly" is not measurable.
			Motion to accept responses as shown from items 32 through 51 with the exception of 42. 1st Mike W.; 2nd Gary W. Passes unanimously.	
52	JC	2.2.3	~~The~~ Specialty Structural Engineer (SSE) shall	Agree. Change to:

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			determine when tolerances are cumulative and shall account for the effect of tolerances in the design of precast concrete components, their connections, and the performance of the structure.	**2.2.3** The specialty structural engineer (SSE) shall account for the effect of tolerances in the design of precast concrete components and their connections.~~,~~ ~~and the performance of the structure.~~
53	JC	2.2.4	~~The precast concrete~~ Manufacturer shall be certified in the appropriate group and category of ~~the~~ PCI Plant Certification Program, or in accordance with AC157 ~~by the International Accreditation Service~~, and shall comply with the requirements of this standard.	AC 157 Acceptance criteria for Fabricator Inspection Programs for reinforced precast/prestressed concrete. Either PCI plant Certification or IAS AC 157 accreditation is acceptable and to meet the requirements of this section. Both are available. Change to: ~~The precast concrete~~ Manufacturer shall be certified in the appropriate group and category of ~~the~~ PCI Plant Certification Program, or in accordance with AC157 ~~by the International Accreditation Service~~, and shall comply with the requirements of this standard.
54	JC	2.2.5	~~he precast concrete erector shall be esponsible for maintaining tolerances during rection.~~ Change to: 'Erector shall erect precast within the erection tolerances'	Change to the following: 2.2.5 ~~The precast concrete~~ eErector shall install precast concrete components within the tolerances in chapter 5. ~~responsible for maintaining tolerances during erection.~~
55	JC	2.3	See conflict with 2.2.3. consider the following: 1.5.2 *Accumulation of tolerances*—A tolerance shall be	Note, Chapter 2. is responsibilities and requirements for entire project. Revise to the following: 2.3 Requirements.

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			interpreted as specified in 1.5.2(a) through 1.5.2(c). 1.5.2(a) Tolerances are not cumulative. 1.5.2(b) Two or more individual tolerances cannot be combined for a single element to create new tolerance than is greater than or less than any applicable individual tolerance for that single element. 1.5.2(c) The most restrictive tolerance shall control.	~~Tolerances shall not be combined to increase the tolerance for an individual precast concrete component or increase tolerances of the structural system.~~ 2.3.1 A tolerance shall be interpreted in accordance with a through c. (a) Tolerances are not cumulative. (b) Two or more tolerances shall not be combined to create a new tolerance that is greater than or less than any applicable tolerance for an individual precast concrete component. (c) The most restrictive tolerance shall control.
56	AM	2.3.1, 1.1, 5.0	Section 2.3.1 of proposal conflicts with Section 6.2 of -00 Ed. -00 Ed. states that tolerances for surfaces and features of secondary control surfaces are additive to erection tolerances. Perhaps some additional information is needed in the proposal to acknowledge that surfaces/features on typical secondary surfaces may require close consideration in establishing the primary control surface or, changing what the primary control surface is.	Section 6.3 of MNL 135-00 is in regard to erection tolerances. Revise the following: 2.3.3 Erection tolerances shall be in accordance with Chapter 5. Current 2.3.3 renumbered to 2.3.3.1 Secondary control surfaces are not part of this standard. MNL 135 is currently being updated and will align with PCI 135.

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57	JC	2.3.2a	The SER or SSE has determined that the out of tolerance product is tolerances are acceptable and structural requirements have been satisfied.	Agree. Change to: 2.3.2(a) The SER or SSE has determined that the out of tolerance component is ~~tolerances are~~ acceptable and structural requirements have been satisfied.
58	JC	2.3.2b	~~The~~ Architect or Owner has determined that the appearance, as related to joints and clearances of exposed surfaces, is acceptable.	Editorial, Agree. 2.3.2(b) ~~The a~~Architect…
59	HW	2.3.2	Suggest adding (c) "The total erected assembly can be modified to meet all structural and architectural requirements."	Language suggested is not mandatory and absolute language is not recommended. Currently there is language in 5.1.1 Resolve tolerance discrepancies ~~found during erection or after placement shall be resolved~~ in accordance with Sections 2.2.2 and 2.2.3. Add to commentary: C2.3.2 The design team may accept an out-of-tolerance component or erected assembly when the structural integrity is not compromised and appearance of the precast concrete ~~element~~ is acceptable.
60	JC	2.3.2.2	Excessive camber variations of prestressed bridge components shall not be a sole reason for rejection for AASHTO sections.	Partially agree. Suggest: 2.3.2.2 Excessive camber variations of AASHTO

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			The following is an attempt to re-word so as to get to the point more directly, but concerned this re-word may not be technically correct. 'Excessive camber variations of AASHTO prestressed bridge components shall not be sole reason for rejection.'	prestressed bridge components shall not be a sole reason for rejection.
61	KA	2.3.2.2	AASHTO (American Association of State Highway and Transportation Officials)	Agree. See Item 60. Stricken.
62	JC	2.3.3	Erection activities that would cause a precast concrete component to be out of tolerance shall not be made without coordination among the Architect, SER or SSE, ~~the precast concrete producer~~ Manufacturer, ~~the~~ Erector, and other affected trades.	Agree. Change to: 2.3.3 …. not be made without coordination among the architect, SER or SSE, ~~the precast concrete producer~~ manufacturer, ~~the~~ erector, and other affected trades.
63	JC	3.1	Prior to being installed fabricated embeds, their components, and erection hardware shall conform to tolerances listed in Section 3.3 ~~prior to being installed~~.	Agree. Make change suggested.
64	JC	3.2.1	Weld tolerances and weld inspection requirements shall be in accordance with one of the following:	Agree. Make change suggested.
65	JG	Figure 3.3.1	The reinforcing bar is welded to the plate. I believe there should be a dimension for the weld length / location on the embed plate.	Weld length tolerances are defined by AWS. No change.
66	JC	3.3.1	~~Tolerances for the fabricated embed plate (Fig. 3.3.1) shall be~~:	Agree. Editorial Make change suggested.

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			Cornell comment, lead off with the verb: 'Fabricate embedded plates (Fig. 3.3.1) to the following production tolerances::'	
			Motion to accept responses as shown from items 52 through 66 1st Gary W. ; 2nd Jim Miller Passes Unanimously	
67	JC	3.3.1	~~Note:~~ Warping tolerance of final fabricated embed plate shall not exceed tolerances in AISI S100-~~16~~ and AISI S240-~~15~~.	Agree. Revise to: ~~Note:~~ Warping tolerances of ~~final~~ fabricated embed plate shall ~~not exceed tolerances in~~ be in accordance with AISI S100-~~16~~ and AISI S240-~~15~~.
68	HW	3.3.2	Change "void" to "hole" or "slot"	Agree. Editorial. change to "…with hole or slot." See item 69.
69	JC	3.3.2	~~Tolerances for the fabricated loose plate with void (Fig. 3.3.2) shall be~~: Fabricate loose plate with void (Fig. 3.3.2) to the following production tolerances:	Agree. Change to: Fabricate loose plate with hole or slot (Fig. 3.3.2) to the following production tolerances:
70	JG	Chapter 5	Should we have tolerances for the X, Y, Z location and rotation for embed plates located within CIP walls/columns, slabs?	ACI 117 provides tolerances for cast-in-place concrete. No change.

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71	EK	Chapter 4	General comment – All Figures should come after the title of the section and begin each section at the top of the page.	Editorial – Production layout item.
72	JC	4.1.1	**4.1.1** ~~Refer to~~ Comply with Section 2.3 ~~when~~ if tolerances are exceeded.	Agree. Change to: ~~Refer to~~ Comply with Section 2.3 ~~when~~ if tolerances are exceeded.
73	JC	4.2	**4.2** Architectural precast concrete component production tolerances. Fabricate architectural precast concrete components ~~shall conform to~~ in conformance with ~~production tolerances listed in~~ Sections 4.2.1 through 4.2.5.	Agree. **.3** Architectural precast concrete component production tolerances. Fabricate architectural precast concrete components ~~shall conform to~~ in conformance with ~~production tolerances listed in~~ Sections 4.2.1 through 4.2.5.
74	JC	4.2.1	the following sentence is trying to do two things at once and its confusing. Consider using two sentences and some separation with a line space. 4.3.1 ~~Production tolerances for~~ Fabricate architectural precast concrete components (Fig. 4.21) to the following production tolerances: ~~shall be:~~	Agree. Revise to: ~~Production tolerances for~~ Fabricate architectural precast concrete components (Fig. 4.21) to the following production tolerances: ~~shall be:~~
75	JC	4.2.1	Length or width tolerance increments shall be based on ~~the~~ minimum length and are not proportional length.	Change to: “Height or width tolerance increments shall be based on the respective minimum dimensions and are not proportional.”
76	EK	4.2.1 i. bowing	Check reference, it appears to be to commentary and not sure if correct.	Agree. Remove parenthetical, keep fig. reference commentary.
77	Ek	4.2.1	NS12 = location of window washing track/buttons Tolerance should be increased to ¼ in.	Agree. Change to 1/4

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78	EK	4.2.1	No tolerance reference for window attachment inserts or embeds	Committee feels this topic is covered under embeds, additional tolerance is not required. No change.
79	EK	4.2.1	h. local smoothness Needs to have a reference to a Figure similar to what is shown in MNL 117	Figure is in commentary. No change.
80	EK	4.2.1 General comment	Add more figures and sketches, similar to MNL117. This can be added to Commentary	Figures are in the commentary. No change.
81	HW	4.2.1 page 13	Delete “steel” 	Agree. This should be reinforcement or reinforcing as it can apply to strand, mild steel or non-metallic rebar. Change to: NS 6: Reinforcing materials Add commentary: C4.2.1 Reinforcing materials may include steel reinforcement, fiber reinforced polymer reinforcement, or seven-wire strand.
81	JC	4.2.1 NOTES	consider using numeral in lieu of symbols,	Editorial. The committee does not recommend #’s. No change
82	JC	4.2.2	Fig. 4.2.2 font on letters is small, hard for old eyes to see. Review all Figures.	Editorial. Committee does not recommend #’s. No change.
83	JC	4.2.2	~~Production tolerances for~~ Fabricate brick-faced architectural precast concrete components (Fig. 4.2.2) to the following production tolerances: ~~shall be:~~	Agree. Change to: ~~Production tolerances for~~ Fabricate brick-faced architectural precast concrete components (Fig. 4.2.2) to the following production tolerances: ~~shall be:~~
84	EK	4.2.2 c. Tipping	Delete the + 1/16 in	This tolerance was considered to be necessary for post-pour repairs or hand set brick. Change to: +/-1/4 in.

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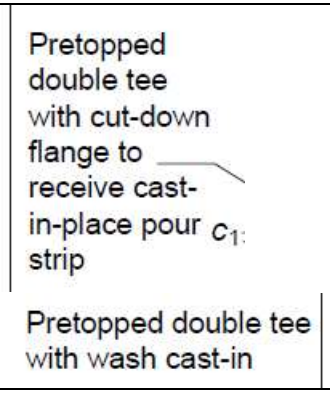
85	EK	4.2.2e. individual step	Delete the + 1/16 in	Change to: +/-1/4 in.
86	EK	4.2.2 Note	Delete reference to ASTM C67	Agree. Remove sentence referencing ASTM C67. Existing commentary with new underlined: C4.2.2 Formliners without brick may be used to create architectural features. Similar tolerances should be maintained to ensure alignment when formliners are used in this manner. Brick formliners may also introduce variations of the listed tolerances to create a desired architectural aesthetic. *PCI Recommended Practice for Embedded Clay Thin Brick in Precast Concrete* provides information to assist in maintaining tolerances.
87	JC	4.2.3	~~Production tolerances for~~ Fabricate sills, lintels, copings, cornices, quoins, and medallions (Fig. 4.2.3) to the following production tolerances: ~~shall be~~:	Agree. Change to: ~~Production tolerances for~~ Fabricate sills, lintels, copings, cornices, quoins, and medallions (Fig. 4.2.3) to the following production tolerances: ~~shall be~~:
88	HW	Fig. 4.2.3	Add c and c_1 in figure	Agree. Add dimensions to figure.
89	JC	4.2.4	~~Production tolerances for~~ Fabricate bollards, benches, and planters (Fig. 4.2.4) to the following production tolerances: ~~shall be:~~	Agree. Change to: ~~Production tolerances for~~ Fabricate bollards, benches, and planters (Fig. 4.2.4) to the following production tolerances: ~~shall be:~~
90	JC	4.2.5	~~Production tolerances for~~ Fabricate precast concrete pavers (Fig. 4.2.5) to the following production tolerances: ~~shall be:~~	Agree. Change to: ~~Production tolerances for~~ Fabricate precast concrete pavers (Fig. 4.2.5) to the following production tolerances: ~~shall be:~~
91	JC	4.3	tructural precast concrete production	Agree. Change to: Structural precast concrete

Item #	Initials	Section Number	Public Comment	Committee Response
			olerances. Fabricate structural precast oncrete components ~~shall~~ in conformance to ~~roduction tolerances listed in~~ Sections 4.3.1 hrough 4.3.24.	production tolerances. Fabricate structural precast concrete components ~~shall~~ in conformance to ~~production tolerances listed in~~ Sections 4.3.1 through 4.3.24.
92	JC	4.3.1	~~Production tolerances for~~ Fabricate solid or insulated flat structural precast concrete wall panels (Fig. 4.3.1) to the following production tolerances: ~~shall be:~~	Agree. Change to: ~~Production tolerances for~~ Fabricate solid or insulated flat structural precast concrete wall panels (Fig. 4.3.1) to the following production tolerances: ~~shall be:~~
			8/2/24 Motion to accept 67 through 92 with the exception of 86. Gary/Brandon Pass unanimously.	
93	NC	4.3.1	Add c_2 to the cross section figure	Agree. Add dimension to figure.
94	HW	4.3.1	In k_1 and k_2 change “panel” to “component” Also q_1 q_2 and r_1	No change. Figure is a panel.
95	HW	4.3.1	NSc_4 Suggest “along” the length as with the width. Also should there be a +0 as with the width	Agree. Change “to” to “along”. Add +0 in. (+0mm)
96	JC	4.3.2	~~Production tolerances for~~ Fabricate ribbed structural precast concrete wall panels (Fig. 4.3.2) to the following production tolerances: ~~shall be:~~	Agree. Change to: ~~Production tolerances for~~ Fabricate ribbed structural precast concrete wall panels (Fig. 4.3.2) to the following production tolerances: ~~shall be:~~

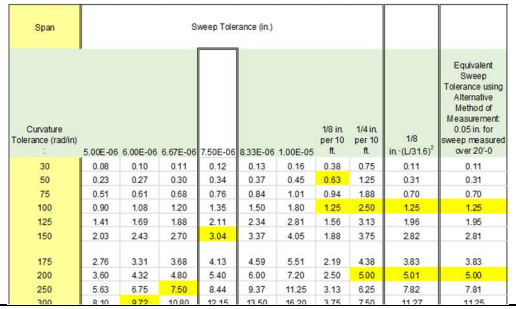
Item #	Initials	Section Number	Public Comment	Committee Response
97	HW	4.3.2	What's the difference between a "rough" opening and a "finished" opening?	Change to have 4.3.2 match callouts for opening 4.3.1 – remove rough opening tolerance and use following commentary for both: A blockout may be "rough" or "finished" specific to its intended use. Finished openings may be exposed to view after installation. Rough openings often are oversized to accommodate interfacing materials and trades.
98	NC	4.3.2	b_1 = Stem width at outside edge	The figure is clear. No change.
99	HW	4.3.2	r_2 r_3 and r_4 Change "Haunches" to "corbels"	Agree. Change "Haunches" to "corbels" Editorial
100	JC	4.3.3	~~Production tolerances for~~ Fabricate precast concrete hollow-core wall panels (Fig. 4.3.3) to the following production tolerances: ~~shall be:~~	Agree. ~~Production tolerances for~~ Fabricate precast concrete hollow-core wall panels (Fig. 4.3.3) to the following production tolerances: ~~shall be:~~
101	JG	Figure 4.3.3 and Section 4.3.3	Should text be changed from "Hollow-core Wall Panel" to "Hollow-core"	Add top layer of strand in figure.
102	HW	4.3.3	K_1 and k_2 change "panel" to "component"	No change.
103	DW	4.3.3	Recommend adding a second width tolerance for saw cut widths. Use tolerance stated in PCI (Dean Frank's May 23, 2017 letter). Saw cut width tolerance = +1/4" and -1/2" for every 10'-0" in length of the hollowcore plank	Comment applies to 4.3.11. The committee does not believe the tolerance should be increased for wall hollow-core wall panels. No change.
104	KW	4.3.3	Add "Solid Flat Slabs production tolerances"	See comment #1 response. Add as Section 4.3.6 and renumber the remainder of chapter 4 Feedback that "pre-topped" slabs should be included. Add the following commentary: C4.3.6 Where the final wearing surface is not the precast concrete flat slab, tolerances may be increased.

Item #	Initials	Section Number	Public Comment	Committee Response
				Add commentary to definition of Smoothness: Smoothness does not refer to the overall shape of the component. Where the final surface is exposed precast concrete smoothness should be measured as the gap below a unleveled straightedge resting on highspots. See Fig. C1.2.2. See sketch provided from Randy Wilson on 8/23/24 and attached responses based off MNL 116 4th edition.
105	JC	4.3.4	~~Production tolerances for~~ Fabricate precast concrete double tees (untopped and pretopped) (Fig. 4.3.4) to the following production tolerances: ~~shall be:~~	Agree.
106	HW	4.3.4	K do double tees use “bundled” strands?	“bundled” is terminology used to describe the method for depressing strand. No change.
107	AM	4.3.4	Remove W_2: Production line of wash, longitudinal and transverse	This was added based on members request to Tolerance committee where tees have wash included during production process. No change.
108	HW	Fig 4.3.5		While not a common practice. Use of single tees may be unavoidable, thus information is relevant. No change.
109	JC	4.3.5	~~Production tolerances for~~ Fabricate precast concrete single tees (untopped and pretopped) (Fig. 4.3.5) to the following	Agree.

Item #	Initials	Section Number	Public Comment	Committee Response
			production tolerances: ~~shall be:~~	
110	HW	4.3.5	O Change “stems” to “stem”	Agree.
111	AM	4.3.5	Remove $W_{2:}$ Production line of wash, longitudinal and transverse	See response to comment 107.
112	JC	4.3.6	~~Production tolerances for~~ Fabricate precast concrete columns (Fig. 4.3.6) to the following production tolerances: ~~shall be:~~	agree.
113	HW	4.3.6	R_1 to r_4 Change “Haunch(s)” to “corbels”	agree.
114	AM	4.3.6	Errors in column haunch tolerance items to illustration.	agree.
115	JG	Section 4.3.6, Page 33, Item k	Item k states “location of strand”. I think this should be “strand or rebar”.	See response to comment 81
116	JC	4.3.7	~~Production tolerances for~~ Fabricate precast concrete beams and spandrel~~s~~ beams (Fig. 4.3.7) to the following production tolerances: ~~shall be:~~	agree.
117	HW	4.3.7	K do beams and/or spandrels use “bundled” strands?	See response to item 106
118	JG	Section 4.3.7, Page 35, Item k	Item k states “location of strand”. I think this should be “strand or rebar”.	See response to comment 81
119	JG	Section 4.3.7, Page 35, Item q2	I believe this dimension should be changed from ½” to 1”. This would match the column and solid or insulated flat structural wall dimension	Agree with proposed change to 1”
120	JC	4.3.8	~~Production tolerances for~~ Fabricate precast concrete I-beam girders or bulb-tee girders (Fig. 4.3.8) to the following production tolerances: ~~shall be:~~	Agree

Item #	Initials	Section Number	Public Comment	Committee Response
121	AM	4.3.8	Overall width should be kept at +3/8” max; web width should be kept at +3/8” max.	The change to +1/8” was a typo, and should be corrected to +3/8” as it was before. 2025 WSDOT Standard Specifications (generally based on PCI tolerances) call out the following: There is no reason why this width tolerance would have been tightened. No other cross-section dimensional tolerances are as tight as 1/8”.
122	BR	4.3.8	f Sweep, for component length = (in.): Component Length ≤ 100 ft…… … 1/8 in. per 10 ft. Component Length ≥ 100 ft…. … 1/8 in. · (L/31.6)2 Where L is the member length in ft.	Per bridge committee guidance, a need to change this tolerance is not necessary. Current limitations work for ease of simplicity of measurement. Practice has shown girders within this tolerance will perform within the completed structure as anticipated in design.

Item #	Initials	Section Number	Public Comment	Committee Response
			Alternatively, f = 0.05 in. for the average of three or more sweep measurements taken over 20 ft. lengths at various locations over the length of the member. [Note: If sweep measurements are taken over 50 ft. lengths instead of 20 ft. lengths, the equivalent sweep tolerance is 5/16 in.]	

Item #	Initials	Section Number	Public Comment	Committee Response
				

Span	Sweep Tolerance (in.)									
Curvature Tolerance (rad/in) :	5.00E-06	6.00E-06	6.67E-06	7.50E-06	8.33E-06	1.00E-05	1/8 in. per 10 ft.	1/4 in. per 10 ft.	1/8 in.·(L/31.6)^2	Equivalent Sweep Tolerance using Alternative Method of Measurement: 0.05 in. for sweep measured over 20'-0
30	0.08	0.10	0.11	0.12	0.13	0.16	0.38	0.75	0.11	0.11
50	0.23	0.27	0.30	0.34	0.37	0.45	0.63	1.25	0.31	0.31
75	0.51	0.61	0.68	0.76	0.84	1.01	0.94	1.88	0.70	0.70
100	0.90	1.08	1.20	1.35	1.50	1.80	1.25	2.50	1.25	1.25
125	1.41	1.69	1.88	2.11	2.34	2.81	1.56	3.13	1.96	1.95
150	2.03	2.43	2.70	3.04	3.37	4.05	1.88	3.75	2.82	2.81
175	2.76	3.31	3.68	4.13	4.59	5.51	2.19	4.38	3.83	3.83
200	3.60	4.32	4.80	5.40	6.00	7.20	2.50	5.00	5.01	5.00
250	5.63	6.75	7.50	8.44	9.37	11.25	3.13	6.25	7.82	7.81
300	8.10	9.72	10.80	12.15	13.50	16.20	3.75	7.50	11.27	11.25

121a	JC	4.3.9	~~Production tolerances for~~ Fabricate precast concrete box beams (Fig. 4.3.9) to the following production tolerances: ~~shall be:~~	agree.
122a	JC	4.3.10	~~Production tolerances for~~ Fabricate precast concrete poles (Fig. 4.3.10) to the following production tolerances: ~~shall be:~~	agree.
123	JC	4.3.11	~~Production tolerances for~~ Fabricate precast concrete hollow-core slabs (Fig. 4.3.11) to the following production tolerances: ~~shall be:~~	agree.
124	HW	4.3.11	K_1 and k_2 Either delete “of panel” or change “panel” to “hollow-core slab”	keeping slab, as panel is addressed earlier in document. No change.
125	JC	4.3.12	~~Production tolerances for~~ Fabricate precast concrete piles (Fig. 4.3.12) to the following production tolerances: ~~shall be:~~	agree.
126	JC	4.3.13	~~Production tolerances for~~ Fabricate tee joists and keystone joists (Fig. 4.3.13) to the	agree.

Item #	Initials	Section Number	Public Comment	Committee Response
			following production tolerances: ~~shall be:~~	
127	HW	Fig 4.3.14	Plan View upper right missing d	agree.
128	JC	4.3.14	~~Production tolerances for~~ Fabricate precast concrete stair units (Fig. 4.3.14) to the following production tolerances: ~~shall be~~:	agree.
129	JC	4.3.15	~~Production tolerances for~~ Fabricate precast concrete sheet piling (Fig. 4.3.15) to the following production tolerances: ~~shall be:~~	agree.
130	JC	4.3.16	~~Production tolerances for~~ Fabricate precast concrete stadium risers (Fig. 4.3.16) to the following production tolerances~~: shall be~~:	agree.
131	JC	4.3.17	~~Production tolerances for~~ Fabricate multi-stemmed bridge units (Fig. 4.3.17) to the following production tolerances: ~~shall be~~:	agree.
132	JC	4.3.18	~~Production tolerances for~~ Fabricate precast concrete modular room units (Fig. 4.3.18) to the following production tolerances: ~~shall be:~~	agree.
133	AM	4.3.18	Inclusion of insulation specifications within room module tolerances similar to those proposed for insulated structural wall panels (Sec. 4.3.1)	Add note to make reference requirements in insulated wall panels section. 4.3.1 C4.3.18 For room modules that are fabricated with insulation, tolerances from 4.3.1 should be used for insulation.
134	JC	4.3.19	~~Production tolerances for~~ Fabricate precast concrete panels for storage tanks (Fig. 4.3.19) to the following production tolerances: ~~shall be:~~	agree.

Item #	Initials	Section Number	Public Comment	Committee Response
135	JC	4.3.20	~~Production tolerances for~~ Fabricate precast concrete bridge deck units (Fig. 4.3.20) to the following production tolerances: ~~shall be~~:	EMG – agree.
136	JC	4.3.21	~~Production tolerances for~~ Fabricate precast concrete segmental box girders (Fig. 4.3.21) to the following production tolerances: ~~shall be~~:	agree.
137	JC	4.3.22	~~Production tolerances for~~ Fabricate precast concrete pier deck units (Fig. 4.3.22) to the following production tolerances: ~~shall be~~:	agree.
138	JC	4.3.23	~~Production tolerances for~~ Fabricate precast concrete box culverts (Fig. 4.3.23) to the following production tolerances: ~~shall be:~~	agree.
			Motion to approve proposed responses of items 93 through 138, except for 97, 101, 104, 121, 122, & 133 Gary 1st , Jim 2nd. Passes unanimously 8/12/24	
139	JC	4.3.23	~~ASTM C1433-20e1 *Standard Specification for Precast Reinforced Concrete Monolithic Box Sections for Culverts, Storm Drains, and Sewers* shall be used for reinforcement placement tolerances~~.	agree.
140	JC	4.3.23	Use mature mandatory language in sentence structure. Lead off with a verb for example 'Comply with reinforcement placement tolerances in accordance with ASTM C1433	agree.
141	JC	4.3.24	~~Production tolerances for~~ Fabricate precast	agree.

Item #	Initials	Section Number	Public Comment	Committee Response
			concrete railroad ties (Fig. 4.3.24) to the following production tolerances: ~~shall be:~~	
142	JC	4.4.1	~~Production tolerances for~~ Fabricate glass-fiber-reinforced concrete (GFRC) panels (Fig. 4.4.1) to the following production tolerances: ~~shall be:~~	agree.
143	DM	4.4.1 Tolerances for GFRC – n1	Verbiage n1 should state “location of opening within panel”	Change to N 1 = Location of ~~window~~ opening within panel 8/19/2024
144	EK	4.4.1 c2	Add “(GFRC)” between concrete & backing	agree.
145	EK	4.4.1e. variation from square	Add “The” before greater	agree.
146	EK	4.4.1o. location of sleeves	Revise +/- 3/8 to +/- ½	agree. 8/19/2024
147	EK	4.4.1i.bowing	Revise to +/- length in./240	Editorial will clean up format.
148	JC	4.4.2	~~Production tolerances for~~ Fabricate glass-fiber-reinforced concrete (GFRC) panel frames (Fig. 4.4.2) to the following production tolerances: ~~shall be:~~	agree.
149	JC	5.1	~~Erection tolerances for~~ Erect precast concrete components ~~shall~~ in conformance with ~~to the~~ tolerance requirements of Section 5.3, unless more stringent tolerances are listed with ~~in the~~ Contract Documents. Connection and bearing tolerances shall conform to Section 5.4.	agree. ~~Erection tolerances for~~ Erect precast concrete components ~~shall~~ in conformance with ~~to the~~ tolerance requirements of Section 5.3, unless more stringent tolerances are listed in ~~in the c~~ontract documents. Connection and bearing tolerances shall conform to Section 5.4.

Item #	Initials	Section Number	Public Comment	Committee Response
150	JC	5.1.1	Resolve tolerance discrepancies ~~found during erection or after placement shall be resolved~~ in accordance with Sections 2.2.2 and 2.2.3. comment discrepancies can be found at any time during construction	Agree. Change to: Resolve tolerance discrepancies ~~found during erection or after placement shall be resolved~~ in accordance with Sections 2.3.2 and 2.3.3.
151	JC	5.2.1	Prior to erection start ~~the start of erection~~, complete (a) through (c) ~~shall be completed~~:	agree. Prior to erection start ~~the start of erection~~, complete (a) through (c) ~~shall be completed~~:
152	JC	5.2.1b	~~The~~ Identify primary control surface ~~shall be identified~~.	agree. ~~The~~ Identify primary control surface ~~shall be identified~~.
153	JC	5.2.1c	~~The~~ Verify location of interfacing materials ~~shall be verified~~.	agree. ~~The~~ Verify location of interfacing materials ~~shall be verified~~.
154	JC	5.2.2	Tolerances between the precast concrete component and items (a) through (d) shall be monitored and maintained as applicable: comment what are we maintaining? How?	No change. Maintaining appropriate tolerances by means and methods, which is not part of the scope for this document.
155	JC	5.3	Erection tolerances for precast concrete components. Unless more-stringent tolerances are specified in ~~listed within the~~ Contract Documents, erect precast concrete components ~~shall~~ in conformance to ~~erection tolerances listed in~~ Sections 5.3.1 through 5.3.13.	agree. Unless more-stringent tolerances are specified in ~~listed within the~~ contract documents, erect precast concrete components ~~shall~~ in conformance with ~~erection tolerances listed in~~ Sections 5.3.1 through 5.3.13.

Item #	Initials	Section Number	Public Comment	Committee Response
156	JC	5.3.1	Erect precast concrete beams ~~erection tolerances~~ (Fig. 5.3.1) to the following erection tolerances: ~~shall be:~~	agree.
157	JC	5.3.2	Erect precast concrete floor and roof components ~~erection tolerances~~ (Fig. 5.3.2.) to the following erection tolerances: ~~shall be:~~	agree.
158	JC	5.3.3	Erect precast concrete columns ~~erection tolerances~~ (Fig. 5.3.3) to the following erection tolerances: ~~shall be:~~	agree.
159	JC	5.3.4	Erect architectural precast concrete wall panels or spandrels ~~erection tolerances~~ (Fig. 5.3.4) to the following erection tolerances: ~~shall be:~~	agree.
160	EK	5.3.4 j. differential bowing	Delete the "+" and "+/-" from in front of dimensions	agree.
161	EK	5.3.4k. opening height between spandrel panel	Revise to +/- ½	Agree Revise to +/- ½
162	EK	Figure 5.3.4	Should match figures in MNL 117. Also reference Fig. 5.4.1	Agree. See correct figure at end of comment summary. Add note at bottom of fig. 5.3.4: See Fig. 5.4.1 for GFRC panel erection tolerances.
163	JC	5.3.5	Erect precast concrete structural wall	agree.

Item #	Initials	Section Number	Public Comment	Committee Response
			panels ~~erection tolerances~~ (Fig. 5.3.5) to the following erection tolerances: ~~shall be:~~	
164	EK	5.3.5 h. joint taper	Add “maximum” after panel	Agree – add “maximum” in front of Joint, change 5.3.4h to match.
165	JC	5.3.6	Erect precast concrete single and double stadium risers ~~erection tolerances~~ (Fig. 5.3.6) to the following erection tolerances: ~~shall be:~~	agree.
166	JC	5.3.7	Erect precast concrete room modules ~~erection tolerances~~ (Fig. 5.3.7) to the following erection tolerances: ~~shall be:~~	agree.
167	JC	5.3.8	Erect precast concrete stair units ~~erection tolerances~~ (Fig. 5.3.8) to the following erection tolerances: ~~shall be:~~	agree.
168	HW	Fig. 5.3.8	Suggest Plan View not just Plan	Comment form notes section 4.3.8, comments seem to apply to 5.3.8 agree.
169	HW	5.3.8	Add * at b	Comment form notes section 4.3.8, comments seem to apply to 5.3.8 agree.
170	HW	5.3.8	f should read: Maximum jog in alignment of matching edges at the primary control surface	Agree. Comment form notes section 4.3.8, comments seem to apply to 5.3.8 Change to: f = Maximum jog in alignment of matching edges at the primary control surface ……..+/- ¼”

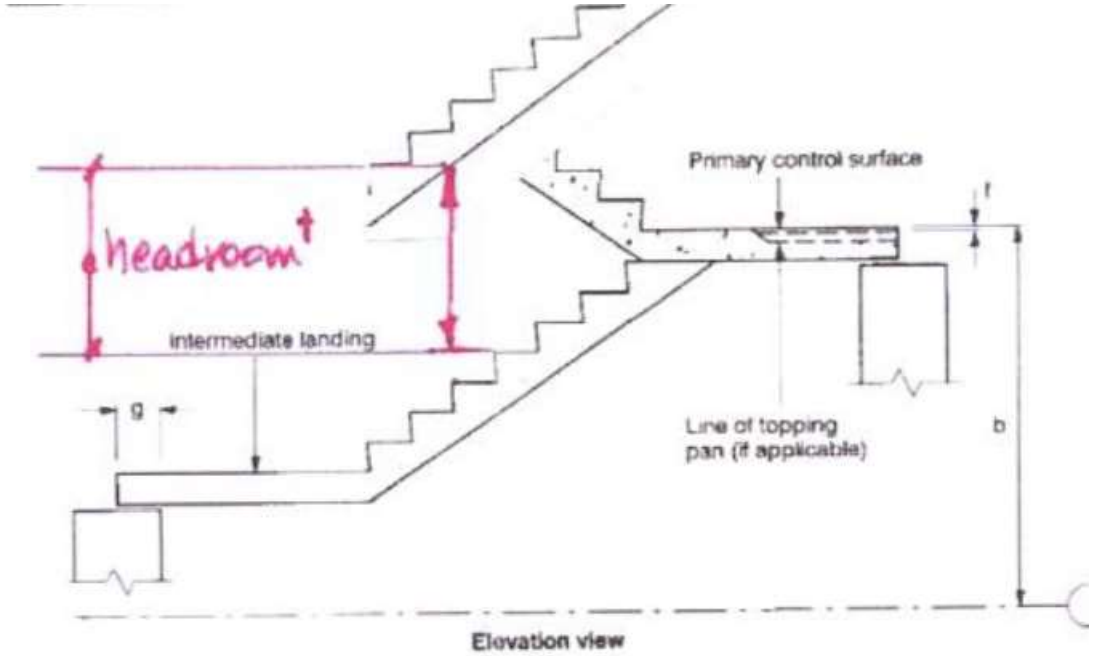
Item #	Initials	Section Number	Public Comment	Committee Response
171	HW	5.3.8	Add g to read Bearing (in span direction)	Agree. Comment form notes section 4.3.8, comments seem to apply to 5.3.8 Change to: g to read Bearing (in span direction) - +/- ¾"
172	HW	Fig. 5.3.8	Suggest an addition to account for headroom from one level to another. See below comments	Comment form notes section 4.3.8, comments seem to apply to 5.3.8 Add second note below list: Headroom clearance shall comply with the requirements of IBC Section 1011.3. Modify sketch to show dimension and pointer to note.
173	JC	5.3.9	Erect precast concrete segmental bridge components ~~erection tolerances~~ (Fig. 5.3.9) to the following erection tolerances: ~~shall be:~~	agree.
174	JC	5.3.10	Erect precast concrete circular storage tanks ~~erection tolerances~~ (Fig. 5.3.10) to the following erection tolerances: ~~shall be:~~	agree.
175	JC	5.3.11	Erect precast concrete pier decks ~~erection tolerances~~ (Fig. 5.3.11) to the following erection tolerances: ~~shall be~~	agree.
176	JC	5.3.12	Erect precast concrete bridge deck units ~~erection tolerances~~ (Fig. 5.3.12) to the following erection tolerances: ~~shall be:~~	agree.

Item #	Initials	Section Number	Public Comment	Committee Response
177	JC	5.4.1	Erect GFRC wall panel or spandrel panels ~~erection tolerances~~ (Fig. 5.4.1) to the following erection tolerances: ~~shall be~~:	agree.
178	EK	Figure 5.4.1	Revise Side View Walls & Section Spandrels sketches to depict bearing Tubes or connector, not haunch	Agree, update sketch update sketch to mimic steel bearing coming out of GFRC panel.
179	EK	5.4.1d maximum plumb	Structure ht greater than 100, revise 3/8 in per 10 to 1/8 in per 10	agree.
180	JC	5.5.1.2	Embed tolerances shall conform to ~~comply with requirements of~~ Chapter 4.	agree.
181	JC	5.5.2.1	Complete connections between precast concrete components, or between precast concrete components and other materials, ~~shall be completed~~ as detailed in ~~the~~ precast concrete erection drawings	agree.
182	JC	5.5.2.2	When ~~Where~~ connections cannot be completed as detailed, provisions (a) and (b) shall be met:	agree.
183	JC	5.5.2.2a	~~The~~ Erector shall notify ~~the~~ Specialty Structural Engineer and General Contractor. General Contractor shall notify Architect and Structural Engineer of Record.	See item 184 for response.
184	JC	5.5.2.2b	~~The structural engineer of record or~~ Specialty Structural Engineer shall review and approve ~~the~~ increased tolerances or provide ~~a~~ modified connection detail such	This concern is covered with commentary and change below.

Item #	Initials	Section Number	Public Comment	Committee Response
			that structural requirements have been satisfied. Specialty Structural Engineer shall submit solution to General Contractor, Architect and Structural Engineer of Record.	C5.5.2.2 Modifications to connections during erection should be documented and provided to the owner at the completion of the project. Methods used to modify or repair connections should not affect the structural performance, long-term durability, or architectural appearance of the precast concrete component or building system. Change: "…provisions (a) through (c) shall be met: Add c) Section 2.3 (c) The most restrictive tolerance shall control.
185	JC	5.5.3	Bearing--Bearing requirements shall be ~~met~~ in accordance with ~~the~~ precast concrete erection drawings. Specific minimum bearing requirements shall be provided on erection drawings by the Specialty Structural Engineer, ~~as necessary~~.	Agree. Change to: "…provided by the SSE and shown on the erection drawings. " .
186	JC	6.1.1	Deviation from ~~listed~~ tolerances of this standard due to other systems within a project shall be allowed when the requirements of Section 2.3 have been satisfied.	agree.
187	AM	N/A	Removed content in comparison to -00 Ed.	This type of information does not belong in this standard. MNL 135 is currently being updated and will follow PCI 135 and contain the information noted as missing. There is commentary of smoothness in PCI 135.

Item #	Initials	Section Number	Public Comment	Committee Response
188	HW	General	Review all figures and use “Plan” or “Plan View” for all and “Side View” or “Elevation” for all. Also show the Plan View above the Elevation for all.	Agree. Will review prior to publishing.
189	HW	General	Several of the comments above may apply to other text and figures. Someone should review and if comments are accepted make appropriate changes where applicable.	agree. Will review prior to publishing.
190	HW	General	Suggest the reference below to the Fire Standard be revised.	Fire standard is not referenced in document. References will be checked prior to publishing.

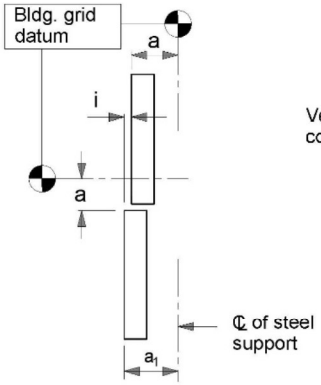
Headroom suggestion:



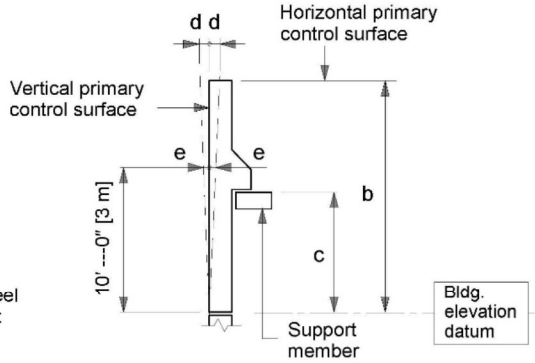
Elevation view

† The vertical clear Height (headroom) shall be no less than that required by the applicable code in the jurisdiction of the project. The International Building Code (IBC) requires 6'-8".

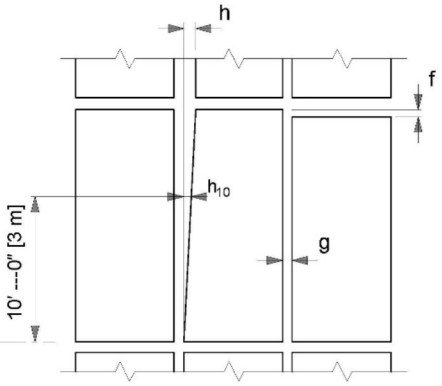
For Item 162: change figure to
Add note at bottom of fig. 5.3.4: See Fig. 5.4.1 for GFRC panel erection tolerances.



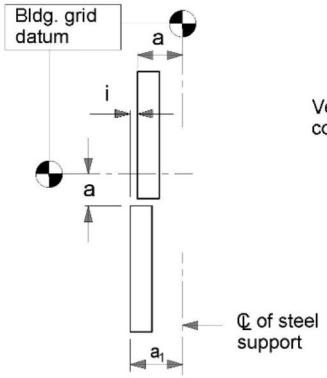
Plan view
Walls



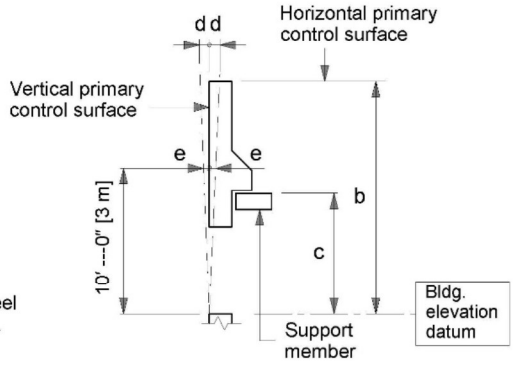
Side view
Walls



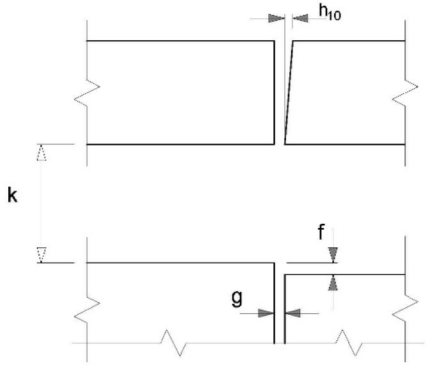
Elevation view
Walls



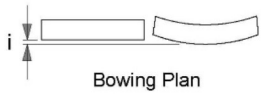
Plan
Spandrels



Section
Spandrels



Elevation
Spandrels



Bowing Plan
Spandrels